

FINANCIAL PLAN
PROJECT NOS. 138-221/232
FEDERAL AID PROJECT NOS. 0951(196) & 0951(345)
MOSES WHEELER BRIDGE/FOUNDATIONS
MILFORD/STRATFORD
DECEMBER 16, 2008

1. Cost Estimates for the Projects

The Moses Wheeler Bridge Project has been broken-up into two separate projects, Project No. 138-221 and Project No. 138-232. The following is the cost estimates for the projects:

a) Project Funding for the Moses Wheeler Bridge Projects – Project Nos. 138-221 and 138-232

The project funding for the preliminary engineering, rights-of-way and construction phases for the Moses Wheeler Bridge projects is shown in Table 1a. – Project Funding for the Moses Wheeler Bridge Project. The costs are broken down per federal fiscal year. This table also shows a program contingency element for the various phases of the projects. The program contingency is to ensure that the financial commitments from the State will be made available to complete all of the proposed phases of the projects.

b) Project No. 138-232 – Moses Wheeler Bridge Foundation Project

The costs for the construction phase of the Moses Wheeler Bridge Foundation project is listed below. The contract items are based on the latest proposal estimate dated September 30, 2008, copy attached, which was developed by the Designer, STV, Inc. and escalated to the midpoint of construction (Year 2010). The costs for incidentals and contingencies are developed from percentages of the contract items that have been developed by the Connecticut Department of Transportation (Department) and concurred by the Federal Highway Administration. For a project with a contract value between \$5 million and \$50 million, the recommended percentages for incidentals and contingencies are 15% and 10% respectively. The utility costs are based on the reimbursable agreements that the Department has in place with individual companies for the adjustment and relocation of utility facilities.

Contract Items:	\$ 42,606,639
Incidentals:	\$ 6,390,996 (15% of Contract Items)
Contingencies	\$ 4,260,665 (10% of Contract Items)
Utilities	<u>\$ 1,000,000</u>
Total:	\$ 54,258,300

c) Project No. 138-221 - Construction of the Moses Wheeler Bridge and Highway

The costs for the construction phase of the Moses Wheeler Bridge project are listed below. The contract items are based on the latest proposal estimate dated August 8, 2007, copy attached, which was developed by the Designer, STV, Inc. and escalated to the midpoint of construction (Year 2013). The costs for incidentals and contingencies are developed from percentages of the contract items that have been developed by the Connecticut Department of Transportation (Department) and concurred by the Federal Highway Administration. For a project with a contract value greater than \$50 million, the recommended percentages for incidentals and contingencies are 12% and 7% respectively. The utility costs are based on the reimbursable agreements that the Department has in place with individual companies for the adjustment and relocation of utility facilities.

Contract Items:	\$ 308,530,000
Incidentals:	\$ 37,024,000 (12% of Contract Items)
Contingencies	\$ 21,597,000 (7% of Contract Items)
Utilities	<u>\$ 1,000,000</u>
Total:	\$ 368,151,000

2. Implementation Plan

The projects involve the complete replacement of the Moses Wheeler Bridge (Bridge No. 00135) that carries Interstate Route 95 over the Housatonic River and Naugatuck Avenue. The need for the project was documented in the Preliminary Engineering Study dated May 1, 2000 for the bridge undertaken by the Designer, STV, Inc. In the Preliminary Engineering Study, the bridge was determined to be functionally obsolete and that it should be replaced by an entirely new bridge. Highway reconstruction work will be performed at each end of the new bridge to effect transition of the new bridge into the existing roadway approaches. The bridge and highway approaches will include three travel lanes in each direction. The cross section of the new bridge will be much wider than the existing bridge section because the narrow shoulders will be replaced with full shoulder widths conforming to the current design standards. No traffic capacity is being added to Interstate 95.

Project No. 138-232, the first project to be advertised, will consist of the foundation work for the main structure, the Moses Wheeler Bridge, plus a drainage system on the Milford side of the river, a drainage system under the waste stock pile area and construction of the waste stock pile area on the Stratford side of the river.

Project No. 138-221, the second project to be advertised, will consist of the remaining bridge work associated with the original project and includes all the other bridges, retaining walls and the roadway work. The design of the second project will include both a concrete and steel alternate for the Moses Wheeler Bridge.

The Moses Wheeler Bridge and the associated project limits are located in the Town of Stratford and the City of Milford. The project limits are between Interchange 33 in Stratford and Interchange 34 in Milford, a total length of approximately 2.35± km (1.5± miles). A location plan of the project is attached.

The following structures are also included in Project No. 138-221.

- Bridge No. 00133 carrying Interstate 95 over U.S. Route 1 E.B. (Barnum Avenue Cutoff)
- Bridge No. 00134 carrying Interstate 95 over U.S. Route 1 W.B. (East Main Street)
- Bridge No. 06613, a new bridge carrying Interstate 95 over Naugatuck Avenue
- Retaining Wall No. 101 on the north side of Interstate 95 to the west of Bridge No. 00134
- Retaining Wall No. 102 on the north side of Interstate 95 between Bridge Nos. 00134 and 00135
- Retaining Wall No. 103 on the north side on Interstate 95 to the east of Bridge No. 06613

A noise barrier wall will be constructed adjacent to the residential properties in Devon (Milford) along the south side of Interstate 95 from approximately the east end of Bridge No. 00613 to a point on the west side of the Interstate 95 Northbound exit ramp to U.S. Route 1 (at Interchange 34).

NEPA requirements and all the commitments for the projects have been satisfied.

Schedule for the Projects

a.) Project No. 138-232

Advertising: January 28, 2009

Bid Opening: March 25, 2009

Award: June 1, 2009

Construction Completion Date: August, 2011

b.) Project No. 138-221

Advertising: February 3, 2010

Bid Opening: March 31, 2010

Award: June, 2010

Construction Completion Date: August, 2016

Permits and Approvals for the Projects

State of Connecticut:

- Department of Environmental Protection General Inland/Wetlands Permit – Issued May 17, 2007
- Department of Environmental Protection Inland Flood Management Certificate – Issued April 10, 2007
- Department of Environmental Protection 401 Water Quality Certificate – Issued August 20, 2008
- Department of Environmental Protection Structure Dredging & Fill and Tidal Wetland - Issued August 20, 2008
- Department of Environmental Protection – General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities – to be submitted by the District Engineer when project is advertised

Federal:

- Categorical Exclusion Approval and Design Approval – Issued December 12, 2001
- Programmatic 4(f) Evaluation for the State Boat Launch Area – Issued March 1, 2007
- U.S. Army Corps of Engineers Individual Permit – Issued September 17, 2008
- U.S. Coast Guard Permit – submitted to the Coast Guard on March 27, 2006, still pending; With the approval of the ACOE permit in September, 2008, the USCG permit is expected in December, 2008

3. Funding Sources for the Projects

Federal Highway Administration

- Highway Bridge Rehabilitation – On System Funds
- Interstate – Maintenance Funds

State of Connecticut

- State Bridge Bond Funds
- Intrastate Bond Funds

The State funds will be available for these projects.

4. Construction Cash Flow for the Projects

a.) Project No. 138-232

The Construction Cash Flow for Project No. 138-232 is expected to occur over three federal fiscal years. As mentioned previously, the total contract items were escalated to the midpoint of construction (2010) and the following Expenditures by Year has been developed for this project:

<u>YEAR</u>	<u>AMOUNT</u>
FFY 2009	\$ 6,856,670
FFY 2010	\$40,807,360
FFY 2011	\$12,020,270
 TOTAL	 \$59,684,300

This information is shown in Table 4 - Construction Cash Flow – Interstate 95/Moses Wheeler Bridge. The Construction Expenditures shown in Table 4 includes a 10% Program Contingency dollar amount. The Program Contingency dollar amount is being applied equally to each federal fiscal year. Also, Table 4a. - Major Item Costs per Year for Breakout Project 1 – Foundations and Drainage shows the major items for the project broken down per federal fiscal year and the incidental, contingency and utility relocation costs broken down per federal fiscal year. The Financial Plan is in agreement with the STIP.

b.) Project No. 138-221

The Construction Cash Flow is expected to occur over seven federal fiscal years. As mentioned previously, the total contract items were escalated to the midpoint of construction (2013) and the following Expenditures by Year has been developed for this project:

<u>YEAR</u>	<u>AMOUNT</u>
FFY 2010	\$25,017,370
FFY 2011	\$63,549,922
FFY 2012	\$89,543,064
FFY 2013	\$95,306,438
FFY 2014	\$57,849,440
FFY 2015	\$56,181,430
FFY 2016	\$17,518,336
 TOTAL	 \$404,966,000

This information is shown in Table 4 - Construction Cash Flow – Interstate 95/Moses Wheeler Bridge. The Construction Expenditures shown in Table 4 includes a 10% Program Contingency dollar amount. The Program Contingency dollar amount is being

applied equally to each federal fiscal year. Also, Table 4b. - Major Item Costs per Year for Breakout Project 2 – Superstructure and Highway (Concrete Segmental Alternative) shows the major items for the project broken down per federal fiscal year and the incidental, contingency and utility relocation costs broken down per federal fiscal year. The Financial Plan is in agreement with the STIP.

5. Cost Estimate Review (CER) for the Projects

The FHWA, along with the Department and the Designer, STV conducted a Cost Estimate Review (CER) for the Moses Wheeler Bridge Projects. The purpose of the cost estimate review was to verify the accuracy and reasonableness of the current cost estimates and schedules for both projects needed for the construction of the I-95 Bridge over the Housatonic River.

Attached are copies of the Cost Estimate Review agenda and the Draft Cost Estimate Review Close-out Presentation document dated December 4, 2008. The Final Cost Estimate Review document will be issued in a few months after the draft document has been reviewed by the FHWA, the designer, STV and the Department.

6. Financial Plan Updates

The Financial Plan will be updated by the Department annually and forwarded to the FHWA by the end of November until the projects are completed.

7. Other Factors

To minimize risks associated with the construction phase of these projects, the Department has implemented procedures to address major risk issues that have been experienced on previous projects. These procedures result primarily from the close interaction between design and construction personnel during the development of the contract documents.

- To minimize risks associated with the construction of the projects, a value engineering study (VE) for the original project was prepared and completed in 2001. The VE Study generated thirty-three proposals of which eleven are VE recommendations and twenty-two are design suggestions. The Department, Designer and the FHWA staffs reviewed these items during the VE review meeting.

During the VE review meeting, it was determined that one of the VE recommendations, that will be implemented, would provide a benefit to the Department. The rest of the VE recommendations would not benefit the Department's design and, therefore, would not be implemented. The reasoning's were summarized in an Implementation Report developed by the Department.

Fourteen of the twenty-two design suggestions were not recommended for implementation at the VE review meeting. The reasoning's were summarized in the

Implementation Report. As the project progressed during the Final Design phase, it was determined that only three of the twenty-two design suggestions will be implemented and the remaining design suggestions will not be implemented.

- The Moses Wheeler Bridge Project was broken-up into two separate projects to minimize risk. The first project, Project No. 138-232, which involves the risky underwater and foundation work, will be bid without the expensive steel or concrete bridge work and will have a shorter construction duration of two years. It also reduces the contract duration for the second project, Project No. 138-221 from eight years to six years.
- Having two separate projects as well as providing a concrete and steel alternate for the bridge is intended to reduce the overall costs by involving more Contractors to bid on these two projects and having the Contractors provide their different methodologies toward these projects.
- The Department's District construction personnel will continue the public involvement program that was initiated during the design phase. Meetings and press releases will be scheduled to inform the public of the construction schedule and proposed work activities for the projects. The construction personnel will also negotiate with the Contractors on a "win - win" basis and thoroughly review claims for errors and omissions.